

**A08876**

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## **THE ROLE OF SMALL WETLAND PRESERVATION IN COMPREHENSIVE PRAIRIE POTHOLE REGION PLANNING**

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The battle to preserve natural wetlands in the prairie area of Minnesota, Nebraska, North and South Dakota has been long and spirited. Since the late 1940's, many changes have occurred which have resulted in more positive action. One of the most positive occurred in 1958 when Congress passed P. L. 85-585 which raised the duck stamp price from two to three dollars and made provisions for the current waterfowl production area acquisition program.

The first Wetland Preservation Office was established in Jamestown, North Dakota in 1960. In October 1961, Public Law 87-383 was passed. This act authorized a 105 million-dollar loan to promote the conservation of migratory waterfowl by accelerating the acquisition of wetlands and other essential waterfowl habitat. By 1962, more offices were established in Devils Lake and Minot, North Dakota; Aberdeen and Huron, South Dakota; Benson and Fergus Falls, Minnesota; and Hastings, Nebraska.

Since the first office was established, through February 28, 1967, the U. S. Fish and Wildlife Service has purchased in fee 155,660 upland and wetland acres and has placed an additional 478,365 wetland acres under easement. Easements are a recorded instrument wherein landowners agree not to drain, burn, level or fill wetlands on designated ownerships in perpetuity. Landowners receive a lump sum payment for these rights. These fee and easement holdings represent preservation of prairie pothole habitat on segments of 8,168 farms.

The accomplishments of this program have been reviewed for the four-state area because they are basic to the role wetland preservation can play in comprehensive planning in the Prairie Pothole Region of the United States. The Prairie Pothole Region covers parts of the four-state area mentioned and extended northwesterly into Canadian Provinces of Alberta, Manitoba and Saskatchewan. Approximately eighty-five percent of the region is located in Canada. The region contains the finest waterfowl production habitat in North America. Waterfowl

produced in this area contribute to waterfowl populations of all flyways.

To be more specific in relating preservation of waterfowl production habitat in the Prairie Pothole Region of the United States to long-range comprehensive planning, my comments will be confined to west central Minnesota. These methods used in Minnesota planning are also being applied in North and South Dakota.

In Minnesota, the State Conservation Department initiated a successful statewide acquisition program in 1950. However, drainage of natural wetlands accelerated during the 1950's, and by 1961 the U. S. Fish and Wildlife Service began supplementing the state's acquisition in a 17-county area. By February 28, 1967, the U. S. Fish and Wildlife Service had optioned 600 fee cases and secured easements on 412 additional ownerships. These federal holdings now cover approximately 38,000 wetland acres and 28,000 acres of upland. In this same 17-county area the Minnesota Conservation Department owns 231 small wetland units covering approximately 43,500 acres (Nielsen, 1966).

These publicly owned or controlled wetlands are widely scattered nucleus wildlife areas. They are located within many political subdivisions and their distribution pattern provides opportunities to make wetlands preservation a part of rural planning.

There are too many active planning projects in the west central Minnesota area to discuss each individually. There are, however, certain key ones which have a potential for influencing wetland preservation work. County, highway, irrigation, watershed, and Rural Conservation and Development planning projects are some of the key ones where more wetland wildlife-oriented ideas can be incorporated. These will be discussed briefly in this paper.

#### COUNTY PLANNING

County governments in the Prairie Pothole Region are strong, locally oriented groups. Their support is needed to carry on an effective wetland preservation program. To gain this support a variety of wetland values has been stressed in the past. Our experience in west central Minnesota shows that the strongest local selling points of our program were related to the educational and recreational values of these units to the people of the specific county. The fact that publicly owned wetlands are within a few miles of towns and school classrooms is an asset that can be easily recognized by the local people.

The enactment of the Land and Water Conservation Act of 1965 has strengthened our previous stand on the recreational value of these

units. This act plus the Housing Act of 1954, which authorized federal funds for planning assistance programs, have both stimulated interest in county planning in Minnesota. The overall requirements that counties must meet to qualify for cost-sharing funds under the Land and Water Conservation Act have prompted them to reinventory their recreational lands and plan ahead for future recreational developments.

Many counties in west central Minnesota are now involved in some stage of planning. As holders of substantial amounts of recreational lands, wildlife agencies were contacted early to furnish data to professional planners. These requests were accepted as invitations to become involved in the county plans. In cooperation with the State Conservation Department, we defined various wildlife and recreational needs. Joint recommendations were then submitted with wetland preservation values re-emphasized as they relate to economics, residential, game and recreation.

As one example, in a county where remnant grasslands support populations of prairie chicken (*Tympanuchus cupido*), county planners requested information on the status of wetland acquisition. We presented this information and in cooperation with the State Conservation Department delineated the endangered prairie chicken range and made a number of recommendations on how the county could assist in preserving this and other wildlife resources.

We are also involved in other current county issues such as county ditch systems. County financed drainage projects have destroyed large blocks of wetland habitat in the past 75 years. County ditches are legal entities set up to complete group drainage projects. Lands within the district are then assessed to pay back the construction and maintenance costs to the county.

Fee acquisition has placed us at the conference table as landowners in proposed ditch systems. The voice we obtain by owning wetlands gives us a chance to explain the broader important ecological implications of these systems to a local agriculturally oriented county group. In some cases, federal or state ownership of key wetlands can result in abandonment of the whole proposal.

#### HIGHWAYS

Wetland projects are quite often involved in township, county, state and federal road construction projects. Application for right-of-way permits presents an opportunity to discuss wetland preservation with engineers of the various highway departments at the same time we are protecting our vested interests.

This procedure has prompted more cooperation with all highway

organizations. Memoranda of Understanding have been signed by our agency with state highway departments in Minnesota, North Dakota and South Dakota. These agreements are designed to insure protection of our wetland holdings adjacent to state highways.

Highway routing data are furnished to designated individuals of our service in the tri-state area early in the planning stage. The construction route is then inspected and wetland preservation and development recommendations are made for areas we control. State Conservation departments can then follow-up with recommendations to reduce wildlife habitat losses on private lands. The latter procedure is made possible by the Bureau of Public Roads Instructional Memorandum 21-5-63, which requires formal coordination between the state highway and fish and game departments to minimize wildlife habitat losses.

#### UNDERGROUND WATER SUPPLIES AND IRRIGATION

Farmers in the prairie region cherish underground water supplies. Many remember the 1930's when the wells went dry. Drainage of natural wetlands has not been considered as a cause of dropping ground water levels in Minnesota by some agricultural engineers. They contend that recharge of ground waters by seepage from wetlands is not significant.

Recent findings by the U.S. Geological Survey have pointed out, however, that seepage through wetland basins, though slow, can contribute substantially to underground water supplies. As stated in Eisenlohr's report: "The rates calculated (seepage outflow) seldom exceed 0.01 foot per day and usually are much less. Even if the rate were only 0.0025 foot per day, in a season of 200 days and an average of 1 million acres in North Dakota, this would mean 500,000 acre-feet seeping into the ground."

Recently, there has been widespread interest in using underground water supplies for irrigation. Two potential irrigation units are being investigated in western Minnesota. Biologists from our staff have been asked to join the irrigation planning group, primarily because of recognition they have derived from wetland preservation work.

#### WATERSHED PLANNING

The Watershed Protection and Flood Prevention Act of 1954 was considered to be one of conservation's most satisfying dreams; that of developing a complete conservation program for the most logical unit. There have been and still are reservations about the application of P. L. 566 in certain parts of the United States (Madson, Koziacky, 1966; Jahn, 1966; Southwick, 1966).

Watershed planning, however, is one of the Soil Conservation Service's priority jobs. The process of delineating all watersheds in western Minnesota is almost complete. There are 11 P. L. 566 watersheds in some stage of active planning in the 17-county working area. With wetland ownerships and easements scattered throughout, wildlife agencies will become more involved in watershed planning.

Public Law 566 projects being considered for construction in the northern part of Minnesota would empty water into the Red River of the North; and water from projects in the south would empty into the Mississippi River. In most cases these small watershed projects contain rivers and flood plains in the lower reaches and moraine formations (Prairie Pothole Region) in the upper reaches.

The historic floods of 1965 along both of these major rivers caused serious damage. This recent reminder should prompt all planning agencies within the Prairie Pothole Region to recognize the importance of the ecological concept expressed in a paragraph of the European wetland publication, *Liquid Assets* (Odum, Swanberg, Wolf, 1963):

The one vital lesson is that all drainage schemes are followed inevitably by repercussions further downstream, the effects being felt eventually by a whole range of apparently unconnected interests. This means that the farmer who sets out to improve his own few acres is likely to cause a quite disproportionate amount of trouble and expense to many other people. He himself cannot be expected to foresee these effects; it is therefore the duty of those who advise on such projects (and encourage them with subsidies), to ensure that due thought has been given to every possible contingency. This cannot be done unless the river basin is considered as a whole, with all its diverse problems, interests and requirements.

Small wetland preservation is important in watershed planning in western Minnesota. The majority of the wetlands under fee and easement control are in the upper reaches of these watersheds and serve as water retention areas in their natural state. Also, upland acres owned adjacent to these wetlands will be retired from crop production to reduce water run-off and soil erosion. Both practices will be highly beneficial to watershed management.

#### RURAL CONSERVATION AND DEVELOPMENT PROJECTS

A five-county area in west central Minnesota has been designated as a Resource Conservation and Development Project Area by the U. S. Department of Agriculture; parts of four of these counties are within the Prairie Pothole Region. The primary objective of this program is

to improve the economic opportunities through proper development, improvement, conservation and utilization of natural resources. Recreational development and expansion will be a major part of the objective. Early contacts to obtain basic information on the wetland programs presented an opportunity for us to participate in the preparation of the long-term plan.

A comprehensive wildlife report was written for part of the Resource Conservation and Development Project Area in cooperation with State Conservation Department biologists. Wetland preservation stands were strengthened and broadened. Seven other wildlife and recreational problems were defined and discussed. Suggestions were made on how to solve some of these problems with current programs and land use changes. The final draft which was approved at the Washington level, included all of our wildlife and recreational recommendations.

The present economic importance of hunting and fishing has been stressed to all planning groups involved in west central Minnesota. Mann (1962) estimated that in 1960 sportsmen spent approximately 29 million dollars in the 17 western Minnesota counties where wetland preservation programs are active. One county alone spent an estimated 6 million dollars. These economic facts reinforce wetland preservation stands because small wetland preservation is basic to the hunting and fishing industry.

#### CONCLUSIONS

The current national trend toward increased recognition of natural resources has resulted in favorable legislation for long-range planning at the local level. Various planning commissions are being created throughout the Prairie Pothole Region. Seldom has an opportunity existed where wildlife agencies could work with such a cross-section of people involved in planning.

Past accomplishments of wetlands acquisition programs have placed wildlife agencies in a strong position for direct involvement with these long range comprehensive plans. A current need, however, is to broaden habitat preservation approaches through more intensive planning with these groups. This approach would gain additional support for existing programs and encourage local and private organizations to share the responsibilities of preserving wetlands and wildlife habitat.

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## DISCUSSION

DISCUSSION LEADER BARICK: Thank you, Mr. DeBates. We are especially thankful to have Mr. DeBates' report that much hope exists for retaining existing wetlands.

On Monday afternoon Dr. Strange from U. S. Forest Service spoke to this end when he emphasized the importance of planning and zoning in conservation. I believe that Dr. Leedy will also talk to this end in the next paper. I wish I could be as hopeful, but from what I read in the newspapers and from what I hear on the radio, world philosophy is hostile toward wetland life. In one recent broadcast it was stated that we exported five million tons annually in the mid-thirties. More recently, we have been exporting in the neighborhood of 80 million tons annually. The forecast is for some 100 million tons annually in the next 10 years. And as we seek to control diseases in undeveloped countries, tremendous populations are developing; the potentials of the export food market become practically limitless. So, unless we take advantage of these programs that Mr. DeBates has mentioned, and unless some additional controls are established, I look for further drastic reduction in wildlife wetlands, not only in the western states but in the southeastern states. Production of food for domestic use is one thing, and government financial assistance to foreign nations is another thing, but if these two factors are combined into a federally financed program for feeding the masses of the world, this will create a monster that will strip the life of our wetlands. If there ever was a need for a birth control pill, it should be for this monster. I might be over-pessimistic, I would like to hear from you on this over-all question of preserving wetlands.